

SPL Meeting: DAQ Status

Listed below are the outstanding items that were shown at the last SPL meeting, see:

http://ncdf76.fnal.gov/~chlebana/reports/spl_Nov_11_2003.txt

1) Make new L3 build node available

Currently using dap34.

Plan to move to a more powerful machine that will have sufficient disk capacity to satisfy the projected needs for the life of the experiment.

New L3/Code Development node has arrived (4x2.8 GHz processor) Waiting to be installed in rack and commissioned.

4) Migration to new web server

Not done. Hardware/software problems.

5) Upgrade OS on IRIX

Not done. Ran out of time.

6) Commissioning of new DAQ/Consumer nodes

Completed - now running all Consumers and DAQ related processes on the new DELL rack mount PCs.

10) Rearrange hardware in new racks

Computers installed in one rack. Second rack should be ready soon, was waiting for electrical work and needed to reinforce the floor. This is now completed.

Have all the hardware and will need an extended down time to install and rearrange the hardware.

13) Database project

Evaluated using Data Guard and found that it does not have the features we want.

→ Finalizing a requirements document.

We have a decommissioned offline SUN available, can be used for testing in order to help minimize the downtime of the production database.

14) Installed Rev F TDCs in many of the COT crates

Installation completed.

→ We see occasional byte shift errors from what appear to come from COT14

This leads to corrupted data detected in the SCPU and sometimes will cause a SCPU timeout requiring that the run be ended and the EVB cleaned up.

→ Will try to replace the TRACER in COT14

→ Should try to make the recovery procedure more robust in the SCPU

15) Ordered Gigabyte Ethernet upgrade for the online switch

Arrived and being tested by DataComm.

Part of the CSL upgrade and allows us to connect some of the online PCs to GigE.

Once tested will need at least 4 hours downtime for the online network to install.

17) Commissioned/Replaced silicon computers

Done

18) Reformatter errors when reading out the Pulsar and Silicon.

Fixed: Problem found in construction the minibank in the front end.

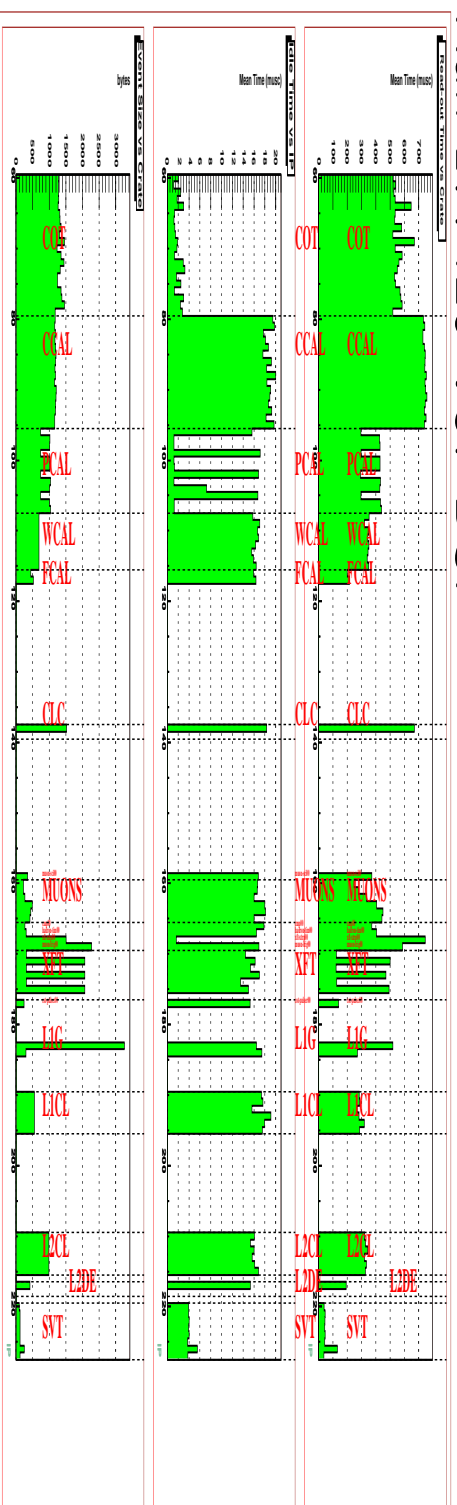
19) Running L3 with 7.3.1

Done: All subfarms now running under RH 7.3.1

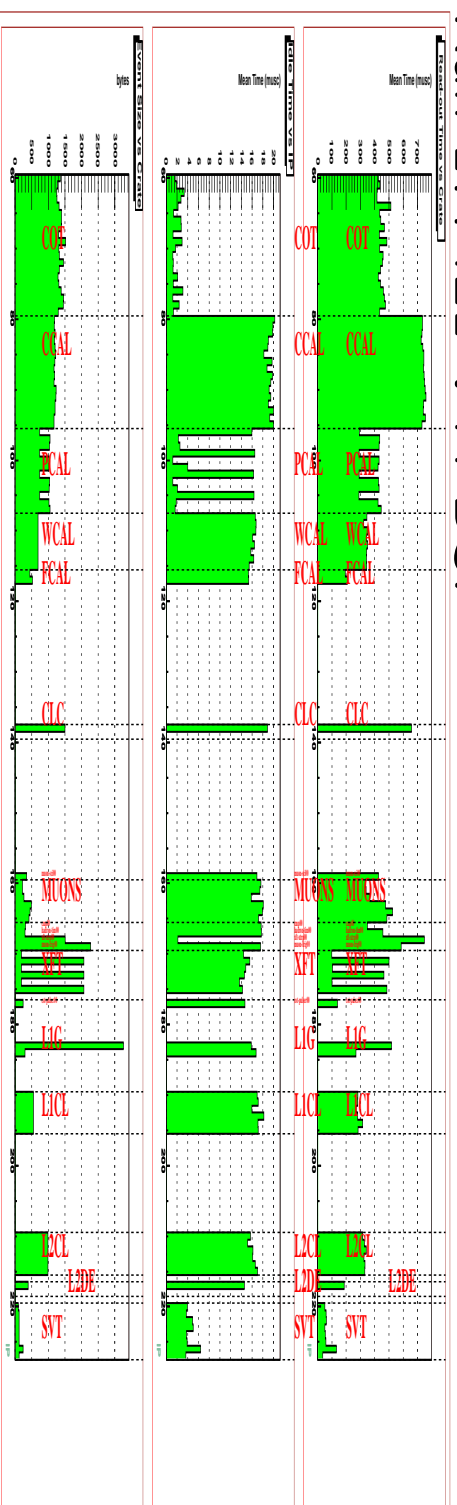
20) Reverse DSP data format.

This has been tested with a min bias run.

Run 177420 V37 DSP



Run 177421 V44 DSP



See about a 20% improvement (520 \rightarrow 420 μ sec) in the readout latency.

At current luminosities the readout latencies are near 1ms coming dominated by the COT crates → need to get the DSP changes in as default as soon as possible.

More info at:

<http://ncdf76.fnal.gov/~chlebana/daq/tdc/dsp44/>

→ Need to make trigger tables that use the offline code that recognizes the two different data formats

→ See occasional Bunch Counter errors that need to be understood

→ Muon data looked funny...

Reminder: MVME 2300s currently being used to readout the CCAL crates, saw a 50% reduction in readout time when using the 2400s.

Looking into buying 5500s for the COT crates and moving the existing 2400s to the CCAL crates. This would be in support of the Run I Ib upgrade.

21) DSP Fast Clear

Code to use the fast clear is included in V44 of the DSP code.

Other Items:

Commissioned and using the new trigger inhibit system.

Efficiencies since Dec 31 have been low, ranging from 70% to 83%

Most downtime appears to be associated with coming back from a long shutdown and “one time” hardware problems - looks like we got over these startup problems by now...

→ *Current DAQ status looks good...*